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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/332,815	09/17/1999	JOHN A. ZEBALA	880088.402	3372

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EXAMINER

ROCHE, LEANNA M

ART UNIT	PAPER NUMBER
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DATE MAILED: 03/03/2003

13

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/332,815

Applicant(s)

ZEBALA, JOHN A.

Examiner

Leanna Roche

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 December 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-157 is/are pending in the application.
- 4a) Of the above claim(s) 1-71 and 92-157 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 72-78, 84-85, 89, 91 is/are rejected.
- 7) ☒ Claim(s) 79-83, 86-88 and 90 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

1. Applicant's election of Group I in Paper No. 8 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Applicant's election of species directed to "a coated article having at least two discrete regions with continuous porous coatings wherein each porous coating has at least one compound attached thereto" is acknowledged, and Claims 72-91 have been examined. Claims 1-71 and 92-157, being non-elected claims, are removed from further consideration.

Specification

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

4. Claim 78 is objected to because of the following informalities: in line 2 of Claim 78, change "tetraethoxysilane" to read "tetraethoxysilane". Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 72-78, 84, 85 and 89 are rejected under 35 U.S.C. 102(b) as being anticipated by Hendrickson et al. (USPN 4757014).

Hendrickson teaches a composite article comprising a fibrous polymeric support having a coating of a gelled network of inorganic oxide particles applied to one or more surfaces of the support (Column 6, lines 11-27). The layer of inorganic oxide is substantially uniform in thickness (Column 6, lines 28-29). The fibrous polymeric support of Hendrickson reads on Applicant's substrate. The gelled network of inorganic oxide particles of Hendrickson reads on Applicant's coating having a substantially uniform thickness comprised of a gelled network of particles. The coating on one or more surfaces of the support of Hendrickson reads on Applicant's "at least two discrete known regions with continuous porous coatings". A layer of protein immobilizer may be applied to the inorganic oxide layer of Hendrickson and biologically active proteins may be attached to the inorganic oxide layer via the protein immobilizer. The biologically active proteins of Hendrickson read on Applicant's at least one compound attached to the porous coating.

The particles used in Hendrickson's inorganic oxide layer is preferably comprised of sols of inorganic oxides such as colloidal silica particles which may be spherical and

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which have a particle size less than about 200 angstroms. This reads on Applicant's particles comprised of oxides of metals present within Group III and Group IV of the periodic table, Applicant's silica particles, Applicant's substantially spherical silica particles, and Applicant's particle size of less than 1000 angstroms.

The silica sol of Hendrickson reads on Applicant's continuous gelled network of particles further comprising a polymer of a substantially hydrolyzed metal alkoxide such as tetraethoxysilane because it is well known in the art of sol-gels that silica sols are comprised of silica particles and hydrolyzed tetraethoxysilane (See USPN 5001453, Examples).

The protein immobilizer of Hendrickson reads on Applicant's linker for attaching the "at least one compound" to the porous coating. The protein immobilizer may be a gamma-aminopropyltriethoxysilane, which reads on Applicant's organoalkoxysilane molecule linker. The biologically active proteins of Hendrickson read on Applicant's peptides.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 91 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Hendrickson (USPN 4757014).

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While Hendrickson does not specifically disclose the pore size of their silica sols, it appears that the silica sol of Hendrickson is substantially identical to the presently claimed porous coating. Thus, it is believed by the examiner that silica sol of Hendrickson would inherently possess an average pore size substantially equal to the particle size of the porous coating material. Additionally, the presently claimed average pore size would have obviously been present once the silica sol of Hendrickson was provided. See *In re Best*, 195 USPQ 433 footnote 4 (CCPA 1977) as to the providing or this rejection under 35 USC 102 as well as 35 USC 103.

Allowable Subject Matter

9. Claims 79-83, 86-88 and 90 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art of record discloses the coated article, but does not teach or suggest the tetraethoxysilane adhesive substrate, the number of coated regions, the size of the coated regions, the surface area of the coating material, an additional fortifying layer, or a linker having a photocleavable moiety, an enzyme cleavable moiety or an acid or base cleavable moiety.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. WO 98/41534 teaches porous supports for solid phase and

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combinatorial phase synthesis which applies to Applicant's porous coating material and linkers and compounds, but does not disclose applying their porous support material to a substrate in at least two distinct regions.

Contact Information

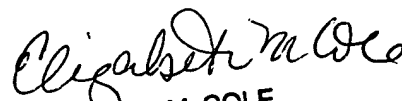
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leanna Roche whose telephone number is 703-308-6549. The examiner can normally be reached on Monday through Friday from 8:30 am to 6:00 pm (with alternate Mondays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 703-308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Imr
February 21, 2003



ELIZABETH M. COLE
PRIMARY EXAMINER